PROJECT DESCRIPTION

I. GENERAL:

THIS PROJECT INVOLVES RECONSTRUCTION OF THE EXISTING TRAFFIC SIGNAL TO MAST ARM STRUCTURES AT THE INTERSECTION OF MD 212 (POWDER MILL ROAD) AND FLORAL DRIVE IN PRINCE GEORGE'S COUNTY. NEW UNDERGROUND INTERCONNECT CABLE SHALL BE INSTALLED SOUTH TO RIGGS ROAD. THE EXISTING PEDESTRIAN EQUIPMENT SHALL BE MAINTAINED.

MD 212 IS ASSUMED TO RUN IN A NORTH - SOUTH DIRECTION.

II. INTERSECTION OPERATION:

A SYSTEM READY BASE-MOUNTED CABINET AND CONTROLLER WITH ALL THE NECESSARY EQUIPMENT WILL BE INSTALLED AT THE INTERSECTION. THE INTERSECTION WILL CONTINUE TO OPERATE IN A NEMA SIX-PHASE, FULLY-ACTUATED MODE. MD 212 THROUGH-MOVEMENTS OPERATE CONCURRENTLY; OR WITH THEIR EXCLUSIVE/PERMISSIVE LEFT-TURNS. FLORAL DRIVE OPERATES CONCURRENTLY WITH THE ENTRANCE TO THE ARMY RESEARCH LAB. THE ENT. TO THE LAB HAS AN EXCLUSIVE/PERMISSIVE RIGHT TURN OVERLAP THAT OPERATES WITH MD 212 SOUTHBOUND LEFT TURN . THE EXISTING COUNTDOWN PEDESTRIAN SIGNALS TO CROSS THE SOUTH AND EAST LEGS, ACTUATED WITH AUDIBLE/ TACTILE PUSHBUTTONS, SHALL BE RE-WIRED.

VIDEO CAMERAS ACTUATE PRESENCE DETECTION AND NON-INVASIVE DETECTORS PROVIDE PASSAGE DETECTION ALONG MD 212. THE INTERSECTION IS ADA-COMPLIANT. THE SIGNING HAS BEEN UPDATED TO CURRENT STANDARDS

AUDIBLE PUSHBUTTON MESSAGE FUNCTIONS AS FOLLOWS:

WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE:

SOUTH LEG: "Wait to cross Powder Mill at Floral, Wait"
EAST LEG: "Wait to cross Floral at Powder Mill, Wait"

WHEN THE "WALK" PHASE BEGINS FOR EITHER CROSSING:

The message will be a rapid tick, which will last for the duration of the "WALK" phase.

III. SPECIAL NOTES:

THE CONTRACTOR SHALL PURCHASE AND DELIVER THE APS CENTRAL CONTROL UNIT FOR THE CONTROLLER TO THE SHA SIGNAL SHOP AT 7491 CONNELLEY DRIVE, HANOVER, MARYLAND, 21076.

THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING MR. EDWARD RODENHIZER, SIGNAL SHOP SUPERVISOR AT (410) 787-7652, THREE (3) DAYS PRIOR TO THE DELIVERY OF APS EQUIPMENT AND SEVENTY-TWO (72) HOURS PRIOR TO THE START OF SIGNAL CONSTRUCTION.

IV. PROJECT CONTACTS:

1. THE CONTACT PERSONNEL FOR THIS PROJECT ARE AS FOLLOWS:

   MS. FELECIA MURPHY, ASSISTANT DISTRICT ENGINEER - TRAFFIC
   PHONE: (301) 513-7404

   MR. DUANE BERNARD, ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
   PHONE: (301) 513-7385

   MR. VERNON STINNETT, ASSISTANT DISTRICT ENGINEER - MAINTENANCE
   PHONE: (310) 513-7304

   MR. VICTOR GRAFTON, UTILITY ENGINEER
   PHONE: (310) 513-7350

   MR. RICHARD DAFF, SR., CHIEF - TRAFFIC OPERATIONS DIVISION
   PHONE: (410) 787-7630

   MR. EDWARD RODENHIZER, CHIEF - SIGNAL SHOP
   PHONE: (410) 787-7652

   MR. SONNY BAILEY, CHIEF - SIGN SHOP
   PHONE: (410) 787-7676

   THE POWER COMPANY REPRESENTATIVE:

   PEPCO
   POTOMAC ELECTRIC POWER COMPANY
   8300 OLD MARLBORO PIKE
   UPPER MARLBORO, MARYLAND 20772
   (301) 961-5325

2. MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING THE STANDARD PLATES FOR TRAFFIC CONTROL FROM SECTION MD 104.00 OF THE SHA BOOK OF STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES.

BY: jhenkel

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY SHA AND INSTALLED BY THE CONTRACTOR.

CAT CODE	QUANTITY	DESCRIPTION
900000	1 EA	LOCAL CONTROLLER, VIDEO INTERFACE UNIT W/ ALL NECESSARY EQUIPMENT HOUSED IN A NEMA SIZE '6' BASE-MOUNTED CABINET.
900000	106 SF	FLAT SHEET ALUMINUM SIGNS CONSISTING OF:
	1 EA	D-3(1) (VAR. x 16") MAST ARM-MOUNTED "Powder Mill RD" DUAL-FACED
	1 EA	D-3(1) (VAR. x 16") MAST ARM-MOUNTED "Floral Drive, RIGHT ARROW/ LEFT ARROW, Floral Drive" BACK-TO-BACK
	1 EA	R3-6(L) (30"x 36") MAST ARM-MOUNTED "LEFT, THRU ARROWS"
	1 EA	R10-3(1) (9"x 15") POLE-MOUNTED "PUSH BUTTON TO CROSS FLORAL DRIVE"
		SHIELD ASSEMBLY PANEL
	1 EA	(30"x 48") POLE-MOUNTED "NORTH, MD 212, RIGHT ARROW"
	1 EA	(30"x 48") GROUND-MOUNTED "SOUTH, MD 212, RIGHT ARROW"
	1 EA	(48"x 72") POLE-MOUNTED "NORTH, MD 212, LEFT ARROW"
	1 EA	(48"x 72") POLE-MOUNTED "SOUTH, MD 212, LEFT ARROW"

EQUIPMENT LIST "B"

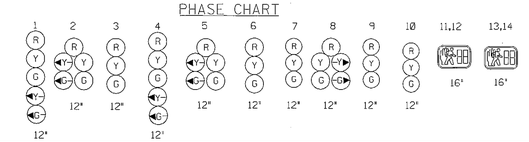
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

ITEM NO.	QUANTITY	DESCRIPTION
1003	2 EA	MAINTENANCE OF TRAFFIC
2002	3 CY	TEST PIT EXCAVATION
8001	1 EA	2 WIRE CENTRAL CONTROL UNIT
8004	1 EA	ADJUST EXISTING HANDHOLE TO GRADE
8008	2 EA	BREAKAWAY PEDESTAL POLE (ANY SIZE)
8013	1 EA	16" LED COUNTDOWN PEDESTRIAN SIGNAL HEAD
8017	1 EA	MAST ARM POLE & 70' MAST ARM, 15 FOOT "T" DIMENSION
8020	3 EA	NON-INVASIVE DETECTOR (ANY LENGTH) LEAD-IN CABLE UP TO 1000'
8021	1 EA	REMOVE & DISPOSE MATERIAL AND EQUIPMENT PER ASSIGNMENT
8023	1 EA	TWIN MAST ARM POLE & 50'/50' MAST ARMS, 15 FOOT "T" DIMENSION
8025	4 EA	VIDEO DETECTION CAMERA AND CABLE UP TO 500'
8028	1600 LF	12- PAIR COMMUNICATION CABLE, UNDERGROUND
8030	210 LF	ELECTRICAL CABLE - 1 CONDUCTOR, 2/0 AWG (3 WIRES)
8033	420 LF	SCHEDULE 80 PVC CONDUIT UP TO 4" - BORED
8035	1340 LF	SCHEDULE 80 PVC CONDUIT UP TO 4" - TRENCHED
8036	18 LF	WOOD SIGN SUPPORTS UP TO 4"X 6"
8038	106 SF	INSTALL OVERHEAD OR GROUND-MOUNTED SIGNS (INCLUDING ALL HARDWARE)
8040	600 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8042	1 EA	METERED SERVICE PEDESTAL EMBEDDED (100 OR 200 AMP)
8045	30 LF	ELECTRICAL CABLE - 1 CONDUCTOR, NO. 8 AWG-THHN/THWN (3 WIRES)
8046	20 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8050	40 EA	12" LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8054	350 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO.14 AWG)
8056	450 LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO.14 AWG)
8057	1700 LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO.14 AWG)
8065	1 EA	INSTALL CONTROLLER AND CABINET - BASE MOUNT

EQUIPMENT LIST "C"

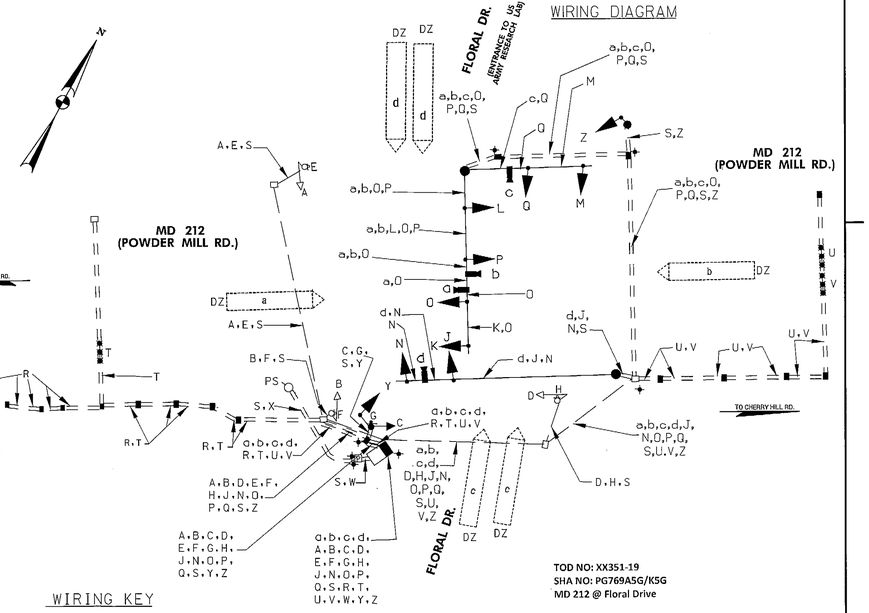
C. SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

PHASE CHART



	1	2	3	4	5	6	7	8	9	10	11,12	13,14	
Phase 1 & 5	◁ R G	◁ R G -	R	◁ R G -	◁ R G -	R	R	R - G ▷	R	R	DW	DW	
1 & 5 Change	THE CONTROLLER MAY SKIP TO PHASES 1 & 6 OR 2 & 5 OR 2 & 6												
Phase 1 & 6	◁ G- G	◁ G- G	G	R	R	R	R	R - G ▷	R	R	DW	DW	
1 Change	◁ Y- G	◁ Y-G	G	R	R	R	R	R - Y ▷	R	R	DW	DW	
Phase 2 & 5	R	R	R	◁ G- G	◁ G- G	G	R	R	R	R	DW	DW	
5 Change	R	R	R	◁ Y-G	◁ Y- G	G	R	R	R	R	DW	DW	
Phase 2 & 6	G	G	G	G	G	G	R	R	R	R	WK	DW	
Ped. Clearance & Countdown	G	G	G	G	G	G	R	R	R	R	FL/DW	DW	
2 & 6 Change	Y	Y	Y	Y	Y	Y	R	R	R	R	DW	DW	
Phase 4 & 8	R	R	R	R	R	R	G	G	G	G	DW	DW	
4 & 8 Change	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW	
Phase 4 Alt.&8	R	R	R	R	R	R	G	G	G	G	DW	WK	
Ped. Clearance & Countdown	R	R	R	R	R	R	G	G	G	G	DW	FL/DW	
4 Alt. & 8 Change	R	R	R	R	R	R	Y	Y	Y	Y	DW	DW	
Flashing Operation	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	

WIRING DIAGRAM



WIRING KEY

a,b,c,d — VIDEO CAMERA WITH LEAD-IN CABLE TO CONTROLLER

A,B,C,D — 5-CONDUCTOR (NO.14 AWG) ELECTRICAL CABLE

E,F,G,H — 2-CONDUCTOR (NO.14 AWG) ELECTRICAL CABLE

K,L,M — 5-CONDUCTOR (NO.14 AWG) JUMPER ELEC. CABLE

J,N,O,P, Q,Y,Z — 7-CONDUCTOR (NO.14 AWG) ELECTRICAL CABLE

R — 12 PAIR COMMUNICATION CABLE (UNDERGROUND-JELLY-FILLED)

S — NO. 6 AWG, STRANDED BARE COPPER GROUND WIRE

T,U,V — NON-INVASIVE DETECTION LEAD-IN TO CONTROLLER

W — NO. 8 AWG, THHN/THWN ELECTRICAL SERVICE CABLE

X — 1-CONDUCTOR 2/0 AWG, SERVICE CABLE

DZ — DETECTION ZONE

PS — PROPOSED SERVICE FEED

⏚ — GROUND ROD

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 GILROY ROAD
HUNT VALLEY, MD 21031
PHONE: (443) 589-2400 FAX: (443) 589-2401

REVISION 'E' 26265.21.010

TOD NO: XX351-19
SHA NO: PG769A5G/K5G
MD 212 @ Floral Drive

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 212 (POWDER MILL ROAD) AT FLORAL DRIVE

ADELPHI, MARYLAND

GENERAL INFORMATION SHEET

SCALE NONE ADVERTISED DATE SEPT. 15, 2011 CONTRACT NO. XX3515168

DESIGNED BY EMM
DRAWN BY EMM
CHECKED BY EMM /NMR
F.A.P. NO.

COUNTY PRINCE GEORGE'S
LOGMILE 16021205.62
TIMS NO. K-046
TOD NO.

TS NO. 703E-GI | DRAWING SG - 02 OF 3 | SHEET NO. 2 OF 3

PLOTTED: Tuesday, September 20, 2011 AT 02:52 PM
FILE: J:\DATA\KD46\PSE_2nd_Submittal\pSG-P002GI_MD212 at Floral Dr.dgn